EPA REGISTRATION JACKET 89807-1

Material Sent for Data Extraction

Reg # 89807-1

Description: Registration

[X] Material(s) Sent to Data Extraction Contractors:

- [X] New Stamped Label Dated Jan 15 2013
- [ ] Notification Dated _____
- [ ] New CSF(s) Dated _____
- [ ] Other: _____

[ ] Decision #: _____

[ ] Other Action/Comments: _____

Attach this coversheet to the top of the material or jacket. It must be well organized and clipped together, NOT STAPLED. Then give the material with this coversheet to staff in the Information Services Center (Room S-4900).

Reviewer: Jaclyn Carl

Phone: 347-0213 Division: AD

Date: 1/17/13

Created February 3, 2011

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Antimicrobials Division (7510C)
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

EPA Reg. Number:	Date of Issuance:
89807-1	JAN 15 2013

Term of Issuance:
Unconditional

Name of Pesticide Product:
Zinc Borate Biocide

NOTICE OF PESTICIDE:
_x_ Registration
___ Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Louisiana-Pacific Corporation
414 Union Street, Suite 2000
Nashville, TN 37219

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product (OPP Decision No. D-466878) is conditionally registered in accordance with FIFRA sec 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for re-registration of your product under FIFRA section 4.

2. Revise the label as follows:

Signature of Approving Official:

Jacqueline Campbell-McFarlane
Product Manager Team-34
Regulatory Management Branch II
Antimicrobials Division (7510P)

Date:

JAN 15 2013

EPA Form 8570-6

a. Change "EPA Reg. No. 89807-__" to read "EPA Reg. No. 89807-1."

b. Correct the CAS Number to read "12477-61-9."

c. Correct the Container Handling instructions on page 4 to read:

"Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before the final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, triple rinse the container promptly after emptying the bag into manufacturing equipment. Then return to manufacturer for refilling or disposal."

3. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped label with conditions is enclosed for your records. Submit final printed label before distributing or selling product bearing revised labels.

If you have questions concerning this matter, please contact me at (703) 308-6416 or by e-mail at campbell-mcfarlane.jacqueline@epa.gov or Jaclyn Carl by telephone at (703) 347-0213 or by e-mail at carl.jaclyn@epa.gov. When submitting information or data in response to this letter, a copy of this letter should accompany the submission to facilitate processing.

Sincerely,

Jacqueline McFarlane
Product Manager (34)
Regulatory Management Branch II
Antimicrobials Division (7510P)

Enclosure: Stamped Label
Toxicology and Chemistry reviews
Memorandums for Responses to Waiver Requests

[*Front panel*]

Zinc Borate

Biocide

For Manufacturing Use Only

INGREDIENTS	
ACTIVE INGREDIENT:	
Zinc Borate ($2ZnO \cdot 3B_2O_3 \cdot 3.5H_2O$)*	99.8%
OTHER INGREDIENTS	0.2%
TOTAL	100.0%

* CAS Number 138265-88-0. Concentration is reported on a dry weight basis.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements.

[Alternate statements: *See below for additional precautionary statements.*
See booklet for additional precautionary statements.
See shipping documents for a complete label.]

Louisiana-Pacific Corporation
EPA Reg. No. 89807-__
EPA Est. No. _____

Net Weight:
2250 Pounds

Batch No.:

Batch Date:

ACCEPTED
JAN 15 2013
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 89807-1

[*Back panel*]

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

FIRST AID	
If in Eyes:	Hold the eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
If Swallowed:	Call a Poison Control Center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.
If on Skin or Clothing:	Take off contaminated clothing. Rinse the skin immediately with plenty of water for 15 minutes.
If Inhaled:	Remove person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
In Case of Emergency: Contact a Poison Control Center (**1-800-222-1222**) or a doctor. Have product label with you when calling or going for treatment.	

ENVIRONMENTAL HAZARDS

Do not discharge effluent containing this product to lakes, streams, ponds, estuaries, oceans, of other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

GENERAL INFORMATION

Zinc Borate Biocide can be used as an additive in the manufacturing of wood-based composites to control the growth of white rot (*e.g., Trametes versicolor*) and brown rot (*e.g., Gloeophyllum trabeum*) decay fungi. Zinc Borate Biocide also helps protect composite materials from damage caused by wood destroying insects. Optimum performance is obtained when Zinc Borate Biocide is uniformly dispersed in wood-based composites. By adding Zinc Borate Biocide prior to or during the blending process, it is possible to achieve a thorough and uniform distribution of the chemical throughout the composite material.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Zinc Borate Biocide provides protection of wood-based composites from wood destroying bacteria, fungi, and insects. Zinc Borate Biocide may be used in the production of wood-based composites used in the production of:

- Exterior panel siding;
- Exterior lap siding;
- Exterior architectural trim;
- Fascia; and
- Soffits

that have been pre-primed with an exterior acrylic base primer and that are for above ground applications only. Do not use Zinc Borate Biocide for exterior applications other than the listed applications. Do not use Zinc Borate Biocide for below ground applications, or aquatic environment applications. Do not use Zinc Borate Biocide for the production of permitted applications unless the treated product, when released for shipment, has been pre-primed with an acrylic base primer.

The ability of a wood-based composite to resist wood destroying bacteria, fungi, and insects is dependent on the wood species, resin type, resin and wax content, method of production, exposure hazard and the presence of wood preservatives. This product does not provide protection against wood destroying bees.

In independent tests performed in Hawaii on aspen flake wood-composites, Zinc Borate Biocide at a loading of 0.99% (w/w), provided protection against wood destroying bacteria, fungi, and insects. This loading is intended to serve only as a guideline, and the wood-based composite manufacturer must determine the Zinc Borate Biocide loadings for their treated product, end-use application, and claims. Zinc Borate Biocide loadings must not exceed 8% (w/w). For wood-based composite loadings in excess of 1.5% (w/w), it may be necessary to use additional adhesive binder to compensate for possible effects on strength.

Manufacturers that use this product are responsible for supporting all claims for their products. This product may be used to produce products that are exempt from EPA registration under the treated article exemption. Manufacturers that use this product to make products marketed with pesticidal claims are responsible for fulfilling all EPA regulatory requirements for their products.

This product may NOT be repackaged without the written authorization of the manufacturer.

STORAGE AND DISPOSAL Do not contaminate water, food or feed by storage or disposal.	
Pesticide Storage:	Store in a dry place. Do not store where children or animals may gain access.
Pesticide Disposal:	Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
Container Handling:	Refillable container. Completely empty bag into manufacturing equipment. Then return to manufacturer for refilling or disposal.

WARRANTY

Neither manufacturer or seller shall be liable for injuries or damages resulting from use and handling of this product contrary to the label. Buyer accepts this material subject to these term and assumes full risk of use and handling except when used or handled in accordance with the label.

Label Version No. _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

MEMORANDUM

DATE: December 6, 2012

SUBJECT: **Zinc Borate (*Zinc Borate Biocide*)**: Response to Waiver Request for Human Health Data Requirement Submitted for a New Application

PC Code(s): 128859	DP Barcode(s)/No(s): D404314
Decision No.: 466878	Registration No(s).: 89239-R
Petition No(s).: NA	Regulatory Action: PRIA
Risk Assess Type: Single Chemical	Case No(s).: 5025
TXR No.: N/A	CAS No(s): 1332-07-6
MRID No(s).: 48833019	40 CFR: N/A

FROM: Jenny J. Tao, Senior Toxicologist
Risk Assessment and Science Support Branch (RASSB)
Antimicrobials Division (AD) (7510P)

TO: Jaclyn Carl, Chemical Review Manager
Regulatory Management Branch II
Antimicrobials Division

THRU: Jonathan Chen, Ph.D., Senior Toxicologist (Peer Reviewer)
Timothy Leighton, Senior Scientist/Team Leader, Human Health Team
Steven Weiss, Branch Chief
Risk Assessment and Science Support Branch
Antimicrobials Division

This memo provides the Agency's response to the registrant's request to waive mammalian toxicity data requirements for Zinc Borate Biocide.

I. BACKGROUND

The registrant, Conn and Smith Inc., submitted an application for Zinc Borate Biocide (EPA Reg. No. 89239-R) manufacturing use product. Zinc Borate Biocide contains 99.8% of zinc borate according to the proposed label. It is intended to be used as a wood preservative to control wood destroying bacteria, fungi, and insects in the manufacturing process of wood-based composites including exterior panel siding, exterior lap siding, exterior architectural trim, fascia, and soffits, which "have been pre-primed with an exterior acrylic base primer and are for above ground applications only", as stated in the proposed label.

No mammalian toxicity data were submitted with the application. The registrant requested a waiver for the following mammalian toxicology studies:

1. 90-Day Oral Toxicity Study – Rodent (870.3100);
2. 90-Day Oral Toxicity Study – Non-Rodent (870.3150);
3. 21/28-Day Dermal Study (870.3200)
4. 90-Day Dermal Study (870.3250);
5. 90-Day Inhalation Study (870.3465);
6. Developmental (Teratogenicity) Study – Rats and Rabbits (870.3700);
7. Reproductive and Fertility Study (870.3800);
8. Chronic Oral Toxicity (870.4100);
9. Carcinogenicity Study – Rats and Mice (870.4200);
10. *In Vitro* Mammalian Cell Gene Mutation Test (870.5300);
11. *In Vitro* Mammalian Chromosome Aberration Test (870.5375);
12. *In Vivo* Mammalian Erythrocyte Micronucleus Test (870.5395);
13. Acute Neurotoxicity (870.6200);
14. 90-Day Neurotoxicity (870.6200);
15. Developmental Neurotoxicity (DNT) (870.6300);
16. Metabolism and Pharmacokinetics (870.7485);
17. Companion Animal Safety (870.7200);
18. Dermal Penetration (870.7600); and
19. Immunotoxicity (870.7800).

II. DISCUSSION

Based on the waiver request document (MRID 48833019) and the proposed use information, the mammalian toxicity studies listed above can be waived, except for the 90-day inhalation toxicity study. The Agency's Zinc Borate Registration Review Final Work Plan (EPA, 2008a) also identifies the 90-day inhalation study as a data requirement. The following describes the Agency's rational for requiring the 90-day inhalation toxicity study.

1. Inhalation is considered to be a potential route of exposure

Zinc Borate Biocide is intended to be used as a wood preservative in the manufacturing process of wood-based composites, including exterior panel siding, lap siding, architectural trim, fascia, and soffits, to control wood destroying bacteria, fungi, and insects. In the data waiver request, it stated that "zinc borate is handled in enclosed vessels and conveying devices". However, the pre-mix process is considered to be an open-pour procedure which workers manually open and empty the

supersacks to release Zinc Borate Biocide powder; such operation does not qualify for a "closed-system". Additionally, it is EPA's understanding that in addition to the supersack packaging, there are also smaller (e.g., 50 lb) sacks that require open pouring. Although personal protective equipment (PPE) is required during the operation, as stated, there is inhalation exposure concern for occupational handlers during open mixing/loading wettable powder related to the proposed uses of Zinc Borate Biocide.

2. Toxicological Information associated with inhalation exposure is not provided

No route-specific inhalation toxicity study is available for zinc borate in the Agency's hazard database. The Agency issued the Final Work Plan (FWP) for Zinc Borate Registration Review in March 2008. In the FWP, the identified human health data requirements, for conducting a complete occupational and residential applicator exposure assessment to determine inhalation risks, include (1) acute inhalation toxicity in rats and (2) 90-day inhalation toxicity in rats, based on the currently registered uses of zinc borate as a material preservative and wood preservative for wood composite materials, such as, roofing, millwork, sheathing, and subflooring.

The proposed uses of Zinc Borate Biocide fall into the same use patterns as those defined in the FWP for Zinc Borate Registration Review; therefore, the identified data requirements of acute and 90-day inhalation studies also apply to Zinc Borate Biocide for the proposed uses.

3. Toxicological concerns associated with borate compounds

Available studies in laboratory animals via oral route of exposure have shown that the developing fetus and the testes are the two primary targets of toxicity of borate compounds in multiple species.

The reported testicular effects include "reduced organ weight and organ:body weight ratio, atrophy, degeneration of the spermatogenic epithelium, impaired spermatogenesis, reduced fertility, and sterility". The identified developmental effects include "high prenatal mortality; reduced fetal body weight; and malformations and variations of the eyes, CNS, cardiovascular system, and axial skeleton. Increased incidences of short rib XIII (a malformation) and wavy rib (a variation), and decreased incidence of rudimentary extra rib on lumbar I (a variation), were the most common anomalies in both rats and mice. Cardiovascular malformations, especially interventricular septal defect, and variations were the frequent anomalies in rabbits" (U.S EPA, 2008b).

Although little toxicity information of borate compounds is available via inhalation exposure, there is no reason to believe that route-specific differences in systemic targets would exist, given the fact of common pathways of borate compounds in the biological system. Therefore, similar systemic target tissues identified in oral studies would be expected following inhalation exposure.

III. CONCLUSION

The 90-day inhalation study is required to evaluate the toxicological effects of zinc borate for the proposed uses; the other mammalian studies are waived. If the registrant provides adequate information to qualify for a "closed-system" operation, the 90-day inhalation data requirement will be re-evaluated by the Agency.

IV. REFERENCES

U. S. Environmental Protection Agency (2008a). Zinc Borate Registration Review Final Work Plan. Office of Pesticide Programs (OPP), Antimicrobial Division (AD; MC7510P), Washington, DC 20460. Docket Number EPA-HQ-OPP-2007-0675. March 21, 2008. http://www.regulations.gov

U. S. Environmental Protection Agency (2008b). Health Effects Support Document for Boron. Office of Water (4304T), Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number EPA-822-R-08-002. January, 2008. www.epa.gov/safewater/ccl/pdf/boron.pdf

MRID 48833019: Cynthia Ann Smith (2012). Zinc Borate: Mammalian Toxicology (Vol. 19). Conn & Smith, Inc., Lorton, VA. June 10, 2012. 28 pages.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C., 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

January 10, 2013

MEMORANDUM

SUBJECT: **Waiver Request for Environmental Fate Data Requirements Required for the Registration of a New Manufacturing Use Zinc Borate (ZNB2335) Product by Conn&Smith, Incorporated (transferred to Louisiana-Pacific Corporation)**

PC Code(s): 128859	DP Barcode(s)/No(s): 404310
Decision No.: 466878	Reregistration No(s). NA
Petition No(s).: NA	Regulatory Action: PRIA (A550)
Risk Assess type:	Case No(s): 5025
TXR No.: NA	CAS No(s): 138265-88-0
MRID No(s).: 488330-14	40 CFR: NA

FROM: A. Najm Shamim, PhD, Chemist
Risk Assessment and Science Support Branch (RASSB)
Antimicrobials Division (7510P)

THRU: Steve Weiss, Branch Chief
Donna Randall, Team Leader of Eco Team
Risk Assessment and Science Support Branch (RASSB)
Antimicrobials Division (7510P)

TO: Jaclyn Carl, Chemical Review Manager (CRM) for Zinc Borate
Regulatory Management Branch 2
Antimicrobials Division (7510P)

The purpose of this Memo is to provide the Agency's decision regarding Conn&Smith, Incorporation's (6/27/2012) request to waive 6 environmental fate studies required to support a new product registration (source of zinc borate is new but the use pattern is not new) and the registrant's determination that 7 fate studies are not data requirements.

The registrant has submitted an application for registration of a new manufacturing use product of zinc borate (Reg#: 89807-R), for use as a wood preservative to control decay and insect damage in wood-based composites (Application date: 6//2712). In December 2012 the product registration was transferred to Louisiana-Pacific Corporation (Reg #: 89239-R).

The proposed labeling language for the new product states: "Zinc borate biocide may be used in the production of wood-based composite used in the production of: Exterior panel siding, Exterior lap siding, Exterior architectural trim, Facia, and Soffits. It should be noted that this language does not include pressure treated applications, the product is added as component prior to or during manufacturing of the composite material.

Many types of zinc borates are synthesized. These include zinc borates with various mole ratios of zinc oxide and boric acids. The two components are fused together at high temperatures. This results in new entities with weak hydrogen bonding between boron, hydrogen, oxygen, and zinc. All of these new substances crystallize with various number of water of hydration (or water of crystallization). The registered product is a zinc oxide to boric acid mole ration of 2:3, and it crystallizes with 3.5 moles of water of hydration. Thus it is sometimes expressed as ZNB2335 (PC Code 128859). The bonding between various parts of the structure is such that a slight change in pH or temperature breaks the structure into individual zinc oxide and boric acid molecules.

The registrant has elected to use the selective method (§152.90) rather than the cite-all method (§152.86) to document compliance for a data requirement. In the selective method the registrant provides a list of the data requirements and the applicant states for each data requirement the method by which compliance is demonstrated (existence or granting of a data waiver; submission of a new valid study; citation(s) of a specific valid study previously submitted to the Agency by the applicant or another person, with any necessary written authorization or offers to pay; citation of a public literature study).

The registrants have requested a waiver from the following fate studies for the new manufacturing use product registration:

- 835.1230: Leaching
- 835.1240: Adsorption/ Desorption
- 835.2120: Hydrolysis
- 835.2240: Photodegradation in Water
- 835.2410: Photodegradation in Soil
- 835.4100: Aerobic Soil Metabolism

Zinc borate is essentially an inorganic substance that has a tendency to easily breakdown. A number of environmental fate studies, listed above, are either not applicable to inorganics. Also due to the instability of the molecule itself some of fate studies, listed above, will not give meaningful data.

The Agency grants waivers to zinc borate (ZNB2335) from the following environmental fate studies:

Guideline #	Type of study	Reasons for granting waivers
835.1230	Leaching	This is a soil column leaching study and provides mobility of an active in a soil column. This active is an inorganic substance which dissociates in water, and thus the observed mobility will not be of the active but its dissociated moieties. These moieties are natural constituents of soil so a well defined retention time cannot be obtained.
835.1240	Adsorption/desorption	This study is also conducted in a soil column, and provides the Kds for an active. Since zinc borate is an inorganic substance, and a number of moieties present in this chemical are also present in the soil; a well-defined Kd value cannot be obtained.
835.2120	Hydrolysis	Zinc borate immediately dissociates in water. Thus hydrolytic process does not take place in the traditional sense. A hydrolysis study will not be of value.
835.2240	Photodegradation in water	Zinc borate immediately dissociates in water. The inorganic moieties of zinc borate do not photo degrade.
835.2410	Photodegradation in soil	Inorganic substances do not photodegrade.
835.4100	Aerobic soil metabolism	Inorganic actives like this one do not metabolize, but speciate into other moieties. Thus a metabolism study will not be of any value.

Additionally, the registrant identified the following fate studies as not required for the new manufacturing use product for the material preservative use based on §158.2280 Antimicrobial Environmental Fate Data Requirements for wood preservative use pattern in the proposed Part 158W rule (October 2, 2008):

- 835.1110: Activated Sludge Sorption Isotherm
- 835.3200: Porous Pot Study;
- 835.4200: Anaerobic Soil Metabolism;
- 835.4300: Aerobic Aquatic Metabolism;
- 835.4400: Anaerobic Aquatic Metabolism;
- 835.6200: Aquatic (sediment); and
- Non-Guideline: Monitoring of Representative US Waters.

Except for the activated sludge sorption isotherm requirement, the Agency agrees that given zinc borate is an inorganic salt the soil and aquatic metabolism studies and the aquatic (sediment) are not applicable and are not data requirements in this case. The Agency also agrees that the monitoring of representative US waters is a higher tier fate requirement and has not been identified or required for other zinc borate registrants with this use pattern, and is not a data requirement at this time. However, because waste containing zinc borate from material preservative application use can result in discharge to waste water treatment facilities, activated sludge sorption isotherm data is required. While the proposed rule identifies wood preservative use as not requiring this data, this has subsequently been identified as incorrect because discharges of waste streams may result in environmental exposure for these use patterns. This was identified as a concern in the Final Work Plan for the Registration Review of Zinc Borate (see docket[1] EPA-HQA-OPP-2007-0675-0013) and the Summary of Product Chemistry,

[1] Located at www.regulations.gov

Environmental Fate and Ecotoxicity Data for the Zinc Borate Registration Review (see docket[1] EPA-HQA-OPP-2007-0675-0004) wood preservative and material preservative use patterns.

Additional environmental fate requirements that were identified in the registration review for this use pattern include activated sludge respiration inhibition (ASRI) and a wood composite leaching study. The registrant has submitted to the Agency fate studies on the Impact of Boron on the Activated Sludge Treatment System (Public Draft OPPTS 835.3100: Ready Biodegradability, and Public Draft OPPTS 850.6800: Modified Activated Sludge Respiration Inhibition; MRID# 488330-15) and Zinc Borate Depletion From Strand-Based Wood Composites: a Non-Guideline Special Leaching Study, MRID# 488330-16).

The submitted studies have been reviewed and MRID# 488330-15 was accepted as supplemental. A few questions must be answered before it is upgraded to acceptable. The second study with MRID# 488330-16 was submitted as an interim report. It was reviewed and statement has been made that the status of acceptability will be based on the final report. The registrants must submit the final report.

As discussed above except for the following environmental fate data, all other fate data requirements have either been met by studies submitted to the Agency by the registrant, waived, or are not required at this time based on the use pattern and fate of the chemical:

- 835.1100: Activated Sludge Isotherm.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C., 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

January 10, 2013

MEMORANDUM

SUBJECT: **Review of waiver requests for the required ecotoxicity studies for Zinc Borate Biocide a new manufacturing use product by Conn&Smith, Incorporated (transferred to Louisiana-Pacific Corporation) for use as a material preservative in controlling decay and insect damage in wood-based composites.**

PC Code: 128859	DP Barcode: 404311
Decision No.: 466878	Registration Nos.: 89239-R
Petition No(s).: NA	Regulatory Action: PRIA (A550)
Risk Assessment Type: Single chemical	Case No.: 5025
TXR No.: NA	CAS No.: NA
MRID Nos.: 488330-17	40 CFR: None

FROM: David Bays, Microbiologist
Risk Assessment and Science Support Branch (RASSB)
Antimicrobials Division (7510P)

THRU: Steve Weiss, Branch Chief
Donna Randall, Ecological Risk Assessment Team Leader
Risk Assessment and Science Support Branch (RASSB)
Antimicrobials Division (7510P)

TO: Jaclyn Carl, Risk Manager Reviewer
Regulatory Management Branch II
Antimicrobials Division (7510P)

The registrant has submitted an application for registration of a new end-use product of zinc borate (Reg#: 89807-R), for use as a wood preservatives to control decay and insect damage in wood-based composites. (Application date: 6/27/12). In December 2012 the product registration was transferred to Louisiana-Pacific Corporation (Reg #: 89239-R). The registrant has elected to use the selective method (§152.90) rather than the cite-all method (§152.86) to document compliance for a data requirement. In the selective method the registrant provides a list of the

data requirements and the applicant states for each data requirement the method by which compliance is demonstrated (existence or granting of a data waiver; submission of a new valid study; citation(s) of a specific valid study previously submitted to the Agency by the applicant or another person, with any necessary written authorization or offers to pay; citation of a public literature study).

RASSB has reviewed the waiver requests for the ecotoxicity studies for the Section 3 Registration of Zinc Borate Biocide. The proposed directions for use of formulations product are as follows: Zinc Borate Biocide provides protection of wood-based composites from wood destroying bacteria, fungi, and insects. The biocide is used in the production of wood-based composites used in the production of: Exterior panel siding; Exterior lap siding; Exterior architectural trim; Fascia; and Soffits that have been pre-primed with an exterior arcylic base primer and that are for above ground applications only. The biocide is not to be used for below ground applications or aquatic environment applications. The product cannot be used unless it has been pre-primed with an acrylic base primer.

The registrant has requested a waiver for each of the following required ecotoxicity studies:

835.2100: Acute Avian Oral Toxicity Study – Mallard Duck
850.4225: Seedling Emergence, Tier II Dose Response Study
850.4250: Vegetative Vigor, Tier II – Dose Response Study
850.4300: Terrestrial Field Study
850.4400: Aquatic Plant Growth (Aquatic Vascular Plant) Tier II – Dose Response Study
850.4450: Aquatic Field Study
850.5400: Aquatic Plant Growth (Algal) Tier II (Dose Response) Study

The registrant identified that the acute avian oral toxicity study with a waterfowl was not required because this data has not been required of other registrants to support registration of a zinc borate wood preservative end-use product (EP). An avian acute study with a waterfowl and an upland game bird is generally required to support registration of an EP with a wood preservative use pattern at a minimum to support hazard labeling, and environmental safety and emergency spill information. The Agency agrees that in the case of zinc borate EPs with wood preservative use patterns data for a single avian species has been identified as sufficient. An examination of the Summary of Product Chemistry, Environmental Fate and Ecotoxicity Data for the Zinc Borate Registration Review Decision Document (see docket[1] EPA-HQ-OPP-2007-0004) demonstrates that other registrants with wood preservative EPs have submitted data for only one avian species, an upland game bird but not for a waterfowl. Because of the restrictions of in-service wood-based composite materials, the practically nontoxic classification of zinc borate based on the one available avian acute toxicity study and an avian dietary study with a waterfowl (mallard duck), the availability of avian acute toxicity data for zinc oxide and boron (transformation reaction products in the environment) also being practically nontoxic, avian acute toxicity testing with zinc borate using a mallard duck is considered unlikely to provide any additional refinement for either a hazard or risk assessment, therefore the waiver is granted.

[1] www.regulations.gov

For a wood preservative EP which has potential to reach environmental compartments, such as via waste streams at the application site to waste water treatment plants and subsequently to surface water (which this use pattern was identified in the registration review work plan for zinc borate (see docket[1] EPA-HQ-OPP-2007-0004 and EPA-HQ-OPP-2007-0013)), in addition to possible leaching from treated articles at in-service use sites algal toxicity testing with four algal species (*Selenastrum capricornutum*-green alga; *Navicula pelliculosa*-freshwater diatom; *Skeletonema costatum*-marine diatom; *Anabaena flos-aquae*-cyanobacterium) are generally required for the parent and/or its major degradates or reaction products. In the case of zinc borate, given that it will dissociate in aqueous environments into zinc and boron complexes algal toxicity tests with other zinc salts and boron can be used in an ecological risk assessment rather than zinc borate for at least three of the species. However to also address hazard labeling and environmental safety and spill information, testing with the green alga (*Selenastrum capricornutum*) with zinc borate itself is required rather than with other zinc salts or boron, especially as the form of metal in aquatic systems can play a major role in its toxicity (USEPA Framework for Metals Risk Assessment[2]).

In the Summary of Product Chemistry, Environmental Fate and Ecotoxicity Data for the Zinc Borate Registration Review Decision Document (see docket[1] EPA-HQ-OPP-2007-0004) (completed in August 2007), no algal toxicity testing with zinc borate was identified as having been submitted. However, algal toxicity data with other zinc salts and boron were identified as available, some data was from open literature. Additionally, acceptable algal toxicity data for zinc salts and boron have since been identified as available in the open literature from water quality criteria documents for zinc (USEPA 1995[3], USEPA 1986[4]) and boron (USEPA 1986[5], BC 1999[6]), respectively—however, no green algae testing with zinc borate was found in these documents. A Data Call-In (DCI) was sent out in February 2012 (see docket[1] EPA-HQ-OPP-2007-0017) to the other registrants of Zinc Borate with wood preservative EPs requiring testing using the green alga, *Selenastrum capricornutum* (OPPTS 850.5400[7]) and zinc borate. Therefore this data requirement is not waived. The registrant can either submit: a study using zinc borate for this species; cite public literature for a study conducted with zinc borate for this species; provide a bridging argument for why in this case tests conducted with a different zinc salt and forms of boron can be used for zinc borate and then either provide the studies or cite public literature with this species using the surrogate zinc salt and boron form). Data found in the open literature for zinc and boron effects to algae will be used by the Agency for the other species.

For a wood preservative EP which has potential to reach environmental compartments, testing with one aquatic vascular species (*e.g.*, duckweed) is generally required for the parent and/or its major degradates or reaction products to conduct a risk assessment. As discussed for the aquatic nonvascular plants, in the case of zinc borate since it will dissociate in aqueous environments

---

[2] www.epa.gov/osa/metalsframework/

[3] http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm

[4] http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/upload/2009_01_13_criteria_goldbook.pdf

[5] http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/upload/2009_01_13_criteria_goldbook.pdf

[6] http://www.env.gov.bc.ca/wat/wq/BCguidelines/zinc/zinctech.pdf

[7] Final OCSPP 850 guidelines for the algal testing were posted in June 2012 after posting of the DCI. The Public Draft OPPTS 850.5400 Algal Toxicity guideline was split into two separate guidelines and renumbered with the cyanobacteria species separated into OCSPP 850.4550 and the other three species under OCSPP 850.4500 (see http://www.epa.gov/ocspp/pubs/frs/publications/Test_Guidelines/series850.htm)

into zinc and boron complexes toxicity tests with other zinc salts and boron can be used for an ecological risk assessment rather than zinc borate. The Summary of Product Chemistry, Environmental Fate and Ecotoxicity Data for the Zinc Borate Registration Review Decision Document (see docket[1] EPA-HQ-OPP-2007-0004) did not include any results for an aquatic vascular plant for zinc borate or for any different zinc salt or boron. This was not identified as a data gap in that document and was not included in the Registration Review zinc borate DCI (see docket[1] EPA-HQ-OPP-2007-0017). There is public literature in the zinc and boron water quality documents on toxicity of these to aquatic vascular plants (*e.g.*, duckweed species) which the Agency believes is sufficient to conduct a risk assessment for zinc borate uses:

Zinc	Duckweed *Lemna minor*	EC_{50}	4-d = 10,000 ppb as Zn	Cited in USEPA 1987, 1997
Boron	Duckweed *Lemna*	NOAEC	20,000 ppb as B	Cited in Canadian WQC 1999

Since this was not identified in the final work plan as a data gap for the other registrants, this is not identified here for these registrants as a data gap either.

For an EP with wood preservative patterns which have potential to reach surface water (which this use pattern was identified in the registration review work plan for zinc borate (see docket[1] EPA-HQ-OPP-2007-0004 and EPA-HQ-OPP-2007-0013)), then higher tier seedling emergence and vegetative vigor studies are required when results of algal toxicity testing demonstrate effects at less than 1.0 ppm. While there was no zinc borate algae data in the Registration Review Summary Document (EPA-HQ-OPP-2007-0004) by which to determine if such data would trigger the need for these higher tier tests, the algal toxicity data for zinc (reaction product of zinc borate in aqueous solution) would indicate that such conditions exist. However, there is sufficient plant effects data for zinc and boron for derivation of irrigation source water quality criteria[8] by the U.S. and this data is sufficient for the intended purpose.

The Agency recognizes that the terrestrial field study and aquatic field study are higher tier effect data requirements. The need to refine a risk assessment to this degree has not been identified for other zinc borate registrants with this use pattern and therefore such information is not a data requirement at this time.

As discussed above except for the following effects data, all other effects data requirements have either been waived, there are acceptable open literature studies, or are not required at this time based on the use pattern and fate of the chemical:

- OCSPP 850.4500[9] Aquatic Plant Growth (Algal) Tier II (Dose Response) Study with zinc borate using the green algae, *Selenastrum capricornutum*.

[8] http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm

[9] Final OCSPP 850 guidelines for the algal testing were posted in June 2012. The Public Draft OPPTS 850.5400 Algal Toxicity guideline was split into two separate guidelines and renumbered with the cyanobacteria species separated into OCSPP 850.4550 and the freshwater and marine diatoms and green algae under OCSPP 850.4500 (see http://www.epa.gov/ocspp/pubs/frs/publications/Test_Guidelines/series850.htm).

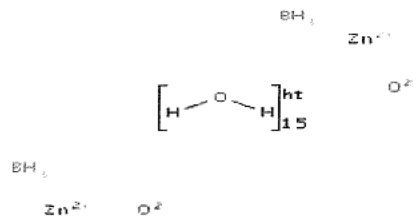
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

EPA United States Environmental Protection Agency **Office of Pesticide Programs**

Antimicrobials Division (AD)
November 21, 2012.

EPA Reg#: 89239-R.		DP Barcode #: 404309.	
		Submission #: 919675	
Product name: **Zinc Borate Biocide.**		Registrant: Conn & Smith, Inc.	
Reviewer's name: Salvador Rodriguez		AD/PSB/CTT- Product Chemistry	
Agency due date: 01/18/13		PSB received date:	
CTT received date: 08/16/12.		Science due date: 12/04/12.	
Formulation type: MUP			
Integrated system: [X]	Non integrated system:[]	Food use: []	Non food use: [X]
Action Code:		Date Completed:	

PC Code	CAS #	Active Ingredient Names	% wt (label)
000595	12447-61-9.	Zinc Borate	99.8



Test Lab: N/A	
MRID(s): 48833000, 48833003, 48833004, 48833005, 48833006, 48833007,48833008,48833009,48833010, 48833011, 48833012 & 48833013	
Approver: Karen P. Hicks	Approved date: 11/23/12.
Guideline: OPPTS 830 Guideline Groups "A & B".	
Comments:	

UNITED STATES ENVIRONMENL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PREVENTION,
PESTICIDES
AND TOXIC
SUBSTANCES

November 21, 2012.

MEMORANDUM

Subject: Review for 89239-R

From: Salvador Rodriguez, Chemist
Chemistry and Toxicology Team
Product Science Branch
Antimicrobials Division (7510P)

Thru: Karen P. Hicks, CT Team Leader
Chemistry and Toxicology Team
Product Science Branch
Antimicrobials Division (7510P)

To: Jacqueline Campbell-McFarlane PM 34\Jaclyn Carl.
Regulatory Management Branch I
Antimicrobials Division (7510P)

Applicant: Conn & Smith, Inc.

Code: A550.

Formulation from Label

Active Ingredient(s)	% by wt.
Zinc Borate.....	99.8

BACKGROUND:

The registrant, has submitted the OPPTS 830 Groups "A & B" studies, and Confidential Statement of Formula (CSF) for the basic formulation to support the registration for the biocide, integrated, non-food and manufacture-use product **Zinc Borate Biocide.** The product chemistry reviewer has received the following documents:

- Confidential Statement of Formula, dated 06/11/12, for the basic formulation.
- Letter, dated 06/13/12.
- Label, dated 06/11/12.
- OPPTS 830 groups "A & B" Studies.
- Data matrix, dated 06/13/12.

FINDINGS:

1. The CSF, dated 06/11/12, for basic formulation is revised.

2. All the certified limits meet the EPA standard certified limits.

3. The CSFs and the label have the same nominal.

4. The OPPTS Guideline Group A product chemistry data requirements applicable to manufacture-use products have been met. MRID# s: 48833003, 48833004, 48833005 & 48833006.

5. The OPPTS Guideline Group "B" product chemistry data requirements applicable for manufacture-use products have been met with the exception of the OPPTS Guidelines: 830.6317 "Storage Stability" & 830.6320 "Corrosion Characteristics" MRID #'s: 48833007,48833008,48833009,48833010, 48833011, 48833012 & 48833013

5. The registrant indicated that these courtesy five pilot-scale batches for the product **Zinc Borate Biocide** were selected for performing the Preliminary Analysis Study. Using the Enforcement Analytical Method, samples were analyzed in duplicate and the average of the two readings was used to express the weight % active ingredient (AI) in each sample. The results are the following:

Batch #	Average content (AI) (%)
9-22-11-001	105
9-22-11-002	101
9-23-11-003	101
9-23-11-004	97.2
9-24-11-005	96.3

CONCLUSIONS:

Product Science Branch of Antimicrobials Division finds the proposed CSF for the basic formulation, dated 06/11/12, for the EPARN 89239-R, and the OPPTS Guideline Group A and OPPTS Guideline Group B to be acceptable, with the exception of the OPPTS Guideline 830.6317 "One year storage stability" & 830.6320 "Corrosion characteristics" studies. These studies will be submitted upon completion. The results of the five batch analysis OPPTS 830.1700 are within the EPA standards certified limits.

RECOMENDATIONS:

The registrant must correct the CAS # for the active ingredient (AI). The correct CAS #: 12447-61-9.

PRODUCT CHEMISTRY REVIEW

I. CONFIDENTIAL STATEMENT OF FORMULA

a. Type of formulation and source registration:

- Non-integrated formulation system []
- Are all TGAIs used registered? Yes [ ] No [ ]
- Integrated formulation system [X]
- If "ME-TOO," specify EPA Reg. No. of existing product: _____

b. Clearance of inerts for non-food or food use:
The product is cleared for food use under 40 CFR §§180.940 and 180.950.
Yes [ ] No [X]

c. Physical state of product: *Powder.*

d. The chemical IDs and analytical information (including that for the TGAIs), density, pH, and flammability are consistent with that given in 830 Series, Group B.
Yes [X] No [ ]

e. The NCs and CLs are acceptable. Yes [X] No [ ]

f. Active ingredient	NC (%)	LCL (%)	UCL (%)
Zinc Borate.....	99.8	95.00	106.0

g. For products produced by an integrated formulation system:

- Do all impurities of toxicological significance have a UCL?
Yes [ ] No [ ] Not applicable [X]
- Have all impurities of ≥ 0.1% in the product been identified?
Yes [X] No [ ] Not applicable [X]

II PRODUCT LABEL

a. The active ingredient statement (chemical IDs and NC) is consistent with the CONFIDENTIAL STATEMENT OF FORMULA. Yes [X] No [ ]

b. The formula contains one of the following:

- 10% or more of a petroleum distillate: Yes [ ] No [X]
- 1.0% or more of methyl alcohol: Yes [ ] No [X]
- sodium nitrite at any level: Yes [ ] No [X]
- a toxic List 1 inert at any level: Yes [ ] No [X]
- arsenic in any form: Yes [ ] No [X]

c. If "yes" to any of the above, does the inert ingredients statement contain a footnote indicating this? Yes [ ] No [ ] Not applicable [X]

d. Appropriate warning statement(s) regarding flammability or explosive characteristics of the product are listed on the label.
Yes [ ] No [ ] Not applicable [X]

e. The storage and disposal instructions for the pesticide container are in compliance with PR Notice 84-1 for household use products or PR Notice 83-3 for all other uses.
Yes [ ] No [ ]

f. The product requires an expiration date at which time the NC falls below the LCL (based on the 1-year storage stability data or other information).
Yes [ ] No [ ]

Note: Storage stability studies are ongoing and have not been completed.

Table A:
Product Chemistry (Series 830, Group A)

Data Requirements	Acceptance of Information	MRID No.
830.1550 Product Identity[1]	A	48833003
830.1600 Description of Materials	A	48833004
830.1620 Production Process[2]	NR	48833005
830.1650 Formulation Process[3]	A	48833003
830.1670 Formation of Impurities[4]	NR	48833003
830.1700 Preliminary Analysis[5]	A	48833006
830.1750 Certified Limits[6]	A	48833003
830.1800 Enforcement Analytical Method[7]	A	48833007
830.1900 Submittal of Samples	*[Samples are to be provided on a case-by-case basis for end-use products.]*	

Explanation: A=acceptable; N=not acceptable (i.e., item was submitted but is not acceptable); NA=technically not applicable (i.e., not required); G=data gap (i.e., item was not submitted but is required); U=requires upgrading (i.e., item is unacceptable but upgradeable); W=waived; E=EPA estimate.

---

[1]See Confidential Appendix A for additional information.
[2]For MP/EP products produced by an integrated formulation system.
[3]For products from a TGAI or MP.
[4]May be waived unless actual/possible impurities are of toxicological concern.
[5]Five batch analysis required for products produced by an integrated formulation system.
[6]If different from standard CLs recommended in 40 CFR 158.175, this should be discussed in Confidential Appendix A.
[7]Abbreviate method used as follows: gas chromatography (GC), infrared (IR), ultraviolet absorption (UV), nuclear magnetic resonance (NMR), etc.

Table B:
Physical and Chemical Characteristics (Series 830, Group B)

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
830.6302 Color	A	Light gray	48833008
830.6303 Physical State	A	Powder	48833008
830.6304 Odor	A	Slight odor	48833008
830.6313 Stability to Normal and Elevated Temperatures, Metals, and Metal Ions	NR		
830.6314 Oxidation/ Reduction; Chemical Incompatibility	W	The product is a flame retardant.	48833010
830.6315 Flammability/ Flame Extension	A	Product does not contain combustible liquids.	48833011
830.6316 Explodability	A	Product is not potentially explosive.	48833011
830.6317 Storage Stability	G	A storage stability study will be submitted upon completion.	48833012
830.6319 Miscibility[1]	A	The product is not intended or labeled for dilution in non-polar organic solvents.	48833011
830.6320 Corrosion Characteristics	G	A corrosion characteristics study will be submitted upon completion.	48833012
830.6321 Dielectric Breakdown Voltage	NR	The product will not be used around electrical equipment.	48833011
830.7000 pH[2]	A	7.58 @ 25°C (1% aqueous mixture.	48833008
830.7050 UV/Visible Absorption	NR		
830.7100 Viscosity	NA	Product is not a liquid.	48833011
830.7200 Melting Point/Melting Range	A	480° C	48833006
830.7220 Boiling Point/Boiling Range	NA	TGAI is not a liquid at room temperature.	48833011
830.7300 Density/Relative Density/Bulk Density	A	0.850 g/cm^3.	48833008
830.7370 Dissociation Constants in Water	W	Requested based upon a rationale.	48833013

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
830.7520 Particle size	A	Fiber length & diameter distribution	48833008
830.7840/830.7860 Water Solubility	NR		
830.7950 Vapor Pressure	NR		

Explanation: A=acceptable; N=not acceptable (i.e., item was submitted but is not acceptable); NA=technically not applicable (i.e., not required); G=data gap (i.e., item was not submitted but is required); U=requires upgrading (i.e., item is unacceptable but upgradeable); W=waived; E=EPA estimate.

---

* Provide brief description, e.g., color – yellow or property value, e.g., density 1.25 g/cc. Unless otherwise indicated, the property should be at 25°C.

[1]If product is an emulsifiable liquid
[2]If product is dispersible with water

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

December 4, 2012

MEMORANDUM

Subject: Acute Toxicity Review for EPA File Symbol 89239-R
Data Package 404312
Product Name: Zinc Borate Biocide

From: Wallace Powell, Biologist WP 12/4/12
Chemistry and Toxicology Team
Product Science Branch
Antimicrobials Division (7510P)

Through: Karen Hicks, Team Leader Dan Blackwell for KPH 12/4/2012
Chemistry and Toxicology Team
Product Science Branch
Antimicrobials Division (7510P)

To: Jacqueline Campbell, PM 34/ Jaclyn Carl
Regulatory Management Branch II
Antimicrobials Division (7510P)

Applicant: Conn & Smith, Inc.

FORMULATION FROM PROPOSED LABEL:

Active Ingredients:	% by weight
Zinc borate (EPA PC Code 128859)	99.8
Other Ingredient(s):	0.2
Total:	100.00

BACKGROUND

In support of registration of the subject product Zinc Borate Biocide, EPA File Symbol 89239-R, the applicant has cited or submitted acute toxicity studies.

DISCUSSION AND RECOMMENDATION

The applicant cited MRID 001453-92 (Accession # 255271) for acute oral toxicity, acute dermal toxicity, eye irritation, and skin irritation[1]. The studies under this MRID were reviewed in a Hazard Evaluation Division (HED, later called Health Effects Division) memorandum of 9/30/1985 (TXR # 004703). The studies were in support of EPA Reg. No. 1624-120. According to the memorandum, the acute oral and acute dermal LD_{50} were both greater than 10 g/kg. The resulting acute dermal toxicity category is III in the memorandum but is amended to IV herein because the category definitions have changed since the time of the memorandum.

MRID 488330-18 was submitted for acute inhalation toxicity. A review of the study is provided below. The inhalation LC_{50} was greater than 2.22 mg/L.

MRID 415455-01 was cited for skin sensitization. A review was provided in an HED memorandum of 7/28/1990 (TXR # 008047) and was supplemented in an HED memorandum of 3/20/1991 (TXR # 008298). The study was in support of EPA Reg. No. 1624-120.

The submitted study and study citations are acceptable. The resulting acute Toxicity Categories are listed in the table below.

Summary:

The acute toxicity profile of Zinc Borate Biocide is currently:

Study	MRID	Toxicity Category	Status
Acute Oral Toxicity	001453-92	IV	Cited
Acute Dermal Toxicity	001453-92	IV	Cited
Acute Inhalation Toxicity	488330-18	IV	Acceptable
Primary Eye Irritation	001453-92	III	Cited
Primary Skin Irritation	001453-92	IV	Cited
Dermal Sensitization	415455-01	Non-sensitizer	Cited

PRODUCT LABELING

Under the heading "Hazards to Humans and Domestic Animals", the labeling indicated in the Agency's *Label Review Manual* is as follows:

> Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

[1] The submitted Data Matrix cites this study for skin irritation; but another document cites a waiver request for 870.2500, which is the skin irritation Guideline Number. At first this appears to be a contradiction. However, when we open the waiver document, we find that the waiver requested is 90-day dermal toxicity not skin irritation. Apparently, then, not the waiver request but the study cited in the Data Matrix is the data support intended for skin irritation.

The First Aid labeling indicated in the Agency's *Label Review Manual* is as follows:

If in eyes:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
- Call a poison control center or doctor for treatment advice.

The human-hazard precautionary and first-aid statements in the proposed product labeling (dated June 11, 2012) appear acceptable.

DATA REVIEW FOR ACUTE INHALATION TOXICITY TESTING (OPPTS 870.1300)

Product Manager: 34
MRID No.: 488330-18

Reviewer: W. Powell
Study Completion Date: 4/26/2012
Report No.: 15842-11

Testing Laboratory: Stillmeadow, Inc. – Sugar Land, TX
Author: Andrew Doig

Quality Assurance (40 CFR §160): Included

Test Material: Zinc Borate; 98.9%

Concentration: gravimetric = 2.22 mg/L, nominal = 6.89 mg/L. (Nose-only exposure)

Species: Rat, Sprague-Dawley
Sex: 5 Males and 5 Females (nulliparous and non-pregnant)
Age: 10 weeks (at start of dosing)
Weight: Males 287-354 g, Females 189-215 g
Source: Texas Animal Specialties

Summary:

1. **LC_{50} (mg/L)**: > 2.22 mg/L in male and female rats
2. **Average MMAD**: 2.6 µm
3. **Toxicity Category**: IV
4. **Classification**: Acceptable

Deviations from Guideline 870.1300: Relative humidity in the animal room was "at times outside protocol range", reaching as high as 92%.

Results:

All animals survived the 4-hour exposure. The median lethal concentration is therefore estimated to be greater than 2.22 mg/L in male and female rats.

Following exposure, the clinical signs observed were piloerection and decreased activity, ceasing by Day 4. All animals showed weekly weight gain. Necropsy revealed no gross abnormalities.

Reported Mortality

Exposure Concentration (mg/L)	Number of deaths / number tested		
	Males	Females	Combined
2.22	0 / 5	0 / 5	0 / 10

Chamber Atmosphere

Exposure Conc. (mg/L)	MMAD (µm)	GSD (µm)	% of Particles ≤ 4.0 µm
2.22	2.6	6.5	79.5

Chamber Environment

Exposure Level (mg/L)	2.22
Chamber Volume (L)	500
Total Airflow Rate (Lpm)	255
Temperature (°C)	20 - 21
Relative Humidity (%)	31 - 92

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

December 10, 2012

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

MS. CYNTHIA ANN SMITH
CONN & SMITH, INC., AGENT FOR
LOUISIANA-PACIFIC CORPORATION
6713 CATSKILL RD.
LORTON, VA 22079-1113

Dear Ms. Smith:

Subject: Transfer of Pesticide Registrations and Data From Company Number 89239 to Company Number 89807

Pursuant to your request in your letter and transfer agreement of November 13, 2012, we have approved the transfer of the following registrations from **CONN & SMITH, INC.**, company number **89239** to **LOUISIANA-PACIFIC CORPORATION**, company number **89807.**

The effective date of these changes is the date of this letter.

Pending Registered Products	Old EPA File Symbol	New EPA File Symbol
Zinc Borate Biocide	**89239-R**	**89807-R**

You should indicate the new company designation, new EPA Registration Number and new Establishment Number (if it has changed) on the labeling at the next printing which should occur no later than 18 months after the effective date of this transfer. After 18 months, any product released for shipment must bear the new Registration Number and Establishment Number. If you intend to use the labels which currently appear on the transferor's product after the effective date of the transfer, but within the 18 month grace period, you must maintain complete and accurate records which identify by batch number, lot number, or other suitable description the quantities of such product bearing the transferor's label. Each container or package bearing the transferor's label which is released after the effective date of product registration transfer, must be clearly and accurately marked with the batch number, lot number or other descriptive designation used to identify the product in your records.

Supplemental distribution agreements of registered products do not transfer with the Section 3 registration. It is your responsibility as the registrant to notify any and all supplemental distributors of the transferred product(s) of this transfer agreement. If you wish to enter into

supplemental distribution agreements of your product(s) under this new registration, the form "Notice of Supplemental Distribution of a Registered Pesticide Product," EPA Form 8570-5, must be submitted to the Agency for each supplemental distributorship.

You are required to contact your local EPA Regional Office to determine what effect this transfer of pesticide registrations has on the pesticide production establishment registration.

It will not be necessary to submit labeling for review if the only changes are in the company designation and the EPA Registration Number. Other changes in the product and/or labeling may require EPA review and approval prior to distribution or sale of the product containing the new registration number. In any correspondence on these products always refer to the U.S. EPA Registration Number listed above.

The transferred registration will have the same status under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, 7 USC 136 et seq., as it had prior to the approval of this transfer.

When registrations are transferred from one company to a second company, all restrictions, data requirements, conditions (suspensions), and deadlines existing on the registrations are transferred with the registrations. The new company is responsible for adhering to or complying with all such restrictions, etc. on the acquired products.

With regard to deadlines, the transferee company is responsible for submitting all required data according to the schedules already established for the acquired products. Failure to do so will result in the issuance of a Notice of Intent to Suspend. Requests from transferee companies for additional time to submit, because they acquired the registration(s) after the 3(c)(2)(B) request was issued will not be granted. If a transferee company has other valid reasons for delays in the testing which were clearly outside of their control, then such requests for time extensions will be considered in accordance with the established procedures. Transfers occurring while a 3(c)(2)(B) request is being issued or during the 90-day response time are subject to the same conditions expressed above.

Registration is in no way to be construed as an endorsement or approval of these products by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with FIFRA.

Furthermore, the transfer of the subject registrations is approved under the condition that the annual maintenance fee obligation has been fully satisfied. The marginal maintenance fee is determined based solely on the total number of active section 3 and section 24(c) registrations held by the transferor. If the annual maintenance fee has not been fully satisfied, the transferee and transferor will be notified to comply within a specified time period or the affected registrations may be canceled.

The Agency acknowledges it has received a request for data transfer dated November 13, 2012 to transfer data ownership from the transferor to the transferee. The data transfer is effective the date of this letter. After this date **LOUISIANA-PACIFIC CORPORATION** will be considered the data owner. This action will not automatically reflect on the Data Submitters List. If you want to be added to the Data Submitters List, you must submit a request to:

Document Processing Desk (DSL)
Office of Pesticide Programs (7504P)
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

By copy of this letter we are informing the transferor of these changes. If you have any questions about this transfer approval please contact Louis Vaughn at (703) 308-8114.

Sincerely,

Steve Robbins, Chief
Information Services Branch
Information Technology & Resource Management Div. (7504P)

cc: MS. CYNTHIA ANN SMITH
CONN & SMITH, INC
6713 CATSKILL RD
LORTON, VA 22079-1113

RE: L_89239_RAD_89807_12_10_2012

Studies Submitted Information For
Company 89239, CONN & SMITH, INC

MRID	Citation	Receipt Date
48833000	Conn & Smith, Inc. (2012) Submission of Product Chemistry, Toxicity, Fate and Exposure and Risk Data in Support of the Application for Registration of Zinc Borate Biocide. Transmittal of 23 Studies.	27-Jun-2012 27-Jun-2012
48833001	Laks, P. (2012) Zinc Borate: Decay Protection Performance in Strand-Based Wood Composites. Unpublished study prepared by Michigan Technological University. 12p.	27-Jun-2012 27-Jun-2012
48833002	Laks, P. (2012) Zinc Borate: Termite Protection Performance in Strand-based Wood Composites: (Subterranean Termite). Unpublished study prepared by Michigan Technological University. 11p.	27-Jun-2012 27-Jun-2012
48833003	Smith, C. (2012) Zinc Borate: Product Identity and Composition: (Group A). Unpublished study prepared by Conn & Smith, Inc. 8p.	27-Jun-2012 27-Jun-2012
48833004	Smith, C. (2012) Zinc Borate: Description of the Starting Materials. Unpublished study prepared by Conn & Smith, Inc. 59p.	27-Jun-2012 27-Jun-2012
48833005	Smith, C. (2012) Zinc Borate: Description of the Production Process. Unpublished study prepared by Conn & Smith, Inc. 27p.	27-Jun-2012 27-Jun-2012
48833006	Whaley, N. (2012) Zinc Borate: Preliminary Analysis. Project Number: ESP009207P/OCR. Unpublished study prepared by Element St. Paul and Columbia Analytical Service Inc. 28p.	27-Jun-2012 27-Jun-2012
48833007	Whaley, N. (2012) Validation of Analytical Method No. 3050B-6010C (Version 2.5): (Zinc Borate). Project Number: ESP009384P/OCR. Unpublished study prepared by Element St. Paul and Columbia Analytical Service, Inc. 107p.	27-Jun-2012 27-Jun-2012
48833008	Sinning, D. (2012) Physical and Chemical Characteristics of Zinc Borate: Color, Physical State, Odor, Corrosion Characteristics, pH, UV/Visible Absorption, Relative Density, Particle Size, Fiber Length and Diameter Distribution, and Water Solubility. Project Number: 5100/01/OCR. Unpublished study prepared by NJIT Material Characterization Laboratories and Case Consulting Laboratories, Inc. 26p.	27-Jun-2012 27-Jun-2012
48833009	Smith, C. (2012) Zinc Borate: Stability and Melting Point. Unpublished study prepared by Conn & Smith, Inc. 4p.	27-Jun-2012 27-Jun-2012
48833010	Smith, C. (2012) Zinc Borate: Oxidation/Reduction. Unpublished study prepared by Conn & Smith, Inc. 4p.	27-Jun-2012 27-Jun-2012

48833011	Smith, C. (2012) Zinc Borate: Flammability, Explodability, Miscibility, Dielectric Breakdown Voltage, Viscosity, Boiling Point, Partition Coefficient, and Vapor Pressure. Unpublished study prepared by Conn & Smith, Inc. 4p.	27-Jun-2012 27-Jun-2012
48833012	Smith, C. (2012) Zinc Borate: Storage Stability. Unpublished study prepared by Conn & Smith, Inc. 4p.	27-Jun-2012 27-Jun-2012
48833013	Smith, C. (2012) Zinc Borate: Dissociation Constant in Water. Unpublished study prepared by Conn & Smith, Inc. 4p.	27-Jun-2012 27-Jun-2012
48833014	Smith, C. (2012) Zinc Borate: Environmental Fate. Unpublished study prepared by Conn & Smith, Inc. 16p.	27-Jun-2012 27-Jun-2012
48833015	Gibbons, G.; White, S. (2006) Impact of Boron on the Activated Sludge Treatment System. Unpublished study prepared by RTM North Carolina, Inc. 24p.	27-Jun-2012 27-Jun-2012
48833016	Laks, P. (2012) Zinc Borate: Depletion from Strand-based Wood Composites. Unpublished study prepared by Michigan Technological University and Rio Tinto Minerals. 18p.	27-Jun-2012 27-Jun-2012
48833017	Smith, C. (2012) Zinc Borate: Ecological Effects. Unpublished study prepared by Conn & Smith, Inc. 12p.	27-Jun-2012 27-Jun-2012
48833018	Doig, A. (2012) Zinc Borate: Acute Inhalation Toxicity in Rats: Final Report. Project Number: 15842/11/OCR. Unpublished study prepared by Stillmeadow, Inc. 19p.	27-Jun-2012 27-Jun-2012
48833019	Smith, C. (2012) Zinc Borate: Mammalian Toxicology. Unpublished study prepared by Conn & Smith, Inc. 28p.	27-Jun-2012 27-Jun-2012
48833020	Smith, C. (2012) Zinc Borate Biocide: Applicator Exposure. Unpublished study prepared by Conn & Smith, Inc. 8p.	27-Jun-2012 27-Jun-2012
48833021	Smith, C. (2012) Zinc Borate: Industrial Hygiene Air Monitoring. Project Number: 08/JG4605/OCR. Unpublished study prepared by Travelers Industrial Hygiene Laboratory. 26p.	27-Jun-2012 27-Jun-2012
48833022	Smith, C. (2012) Zinc Borate Biocide: Product Use Information. Unpublished study prepared by Conn & Smith, Inc. 31p.	27-Jun-2012 27-Jun-2012
	Smith, C. (2012) Zinc Borate Biocide: Post-Application Exposure. Unpublished study	27-Jun-2012

48833023	prepared by Conn & Smith, Inc. 11p.	27-Jun-2012
Total Rows: 24		

Please read instructions on reverse before completing form. Form Approved. OMB No. 2070-0060 Print Form

United States Environmental Protection Agency Washington, DC 20460

[X] Registration [ ] Amendment [ ] Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number	2. EPA Product Manager	3. Proposed Classification
89807-R	Jacqueline Campbell-McFarlane	[ ] None [ ] Restricted
4. Company/Product (Name) Zinc Borate Biocide	**PM#** 34	

5. Name and Address of Applicant *(Include ZIP Code)*

Louisiana-Pacific Corporation
414 Union Street, Suite 2000, Nashville, TN 37219

[ ] *Check if this is a new address*

6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to:

EPA Reg. No. _____

Product Name _____

Section - II

[ ] Amendment - Explain below.
[ ] Resubmission in response to Agency letter dated _____
[ ] Notification - Explain below.
[ ] Final printed labels in response to Agency letter dated _____
[ ] "Me Too" Application.
[X] Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of administrative documents and label to identify Louisiana-Pacific Corporation as the registrant and data submitter based upon the registration and data transfer letter from EPA dated December 10, 2012. The old EPA file symbol is 89239-R. The new EPA file symbol is 89807-R.

Section - III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging	Unit Packaging	Water Soluble Packaging	2. Type of Container
[ ] Yes* [X] No	[ ] Yes [X] No	[ ] Yes [X] No	[ ] Metal [X] Plastic [ ] Glass [ ] Paper [ ] Other (Specify) _____
* *Certification must be submitted*	If "Yes" Unit Packaging wgt. / No. per container	If "Yes" Package wgt / No. per container	

3. Location of Net Contents Information	4. Size(s) Retail Container	5. Location of Label Directions
[X] Label [ ] Container	2250 pounds	[X] On Label [ ] On Labeling accompanying product

6. Manner in Which Label is Affixed to Product In an attached plastic pouch

[ ] Lithograph [ ] Paper glued [ ] Stenciled [ ] Other _____

Section - IV

1. Contact Point *(Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)*

Name	Title	Telephone No. (Include Area Code)
Cynthia Ann Smith	Agent	703-339-1117

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

6. Date Application Received (Stamped)

2. Signature	3. Title
Cynthia Ann Smith	Agent
4. Typed Name Cynthia Ann Smith	**5. Date** December 17, 2012

Conn & Smith Inc.
Professionals in Pesticide Regulatory Services

December 17, 2012
HAND DELIVERED

Document Processing Desk
Office of Pesticide Programs (7504P)
U.S. Environmental Protection Agency
One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202-4501
Attn: Ms. Jacqueline Campbell-McFarlane

Dear Ms. Campbell-McFarlane:

RE: Zinc Borate Biocide (EPA File Symbol 89807-R)
Submission of Administrative Documents to Reflect the Registration and Data Transfer

This letter and the enclosures are submitted on behalf of Louisiana-Pacific Corporation.

The application for registration for Zinc Borate Biocide was submitted by Conn & Smith, Inc. On December 10, 2012, the registration and the data were transferred to Louisiana-Pacific Corporation. The old EPA File Symbol was 89239-R. The new EPA File Symbol is 89807-R.

The following enclosed documents dated December 17, 2012 identify Louisiana-Pacific Corporation as the applicant and data submitter:

- Application form;
- Certification with Respect to Citation of the Data;
- Data Matrix;
  - Agency Internal Use Copy;
  - Public File Copy;
- Confidential Statement of Formula (2 copies);
- Label (5 paper copies, 1 pdf copy on CD);
- Certification with Respect to Label Integrity.

We look forward to the completion of the registration.

Best wishes for a happy holiday season.

Sincerely,

Cynthia Ann Smith

Cynthia Ann Smith
Vice President
Agent for Louisiana-Pacific Corporation

cc: A. Ingram, Louisiana-Pacific Corporation

Richard L. Conn
703 • 339 • 4199
richard@connsmith.com

6713 Catskill Road • Lorton, VA 22079-1113 • USA

Cynthia A. Smith
703 • 339 • 1117
cindy@connsmith.com

Form Approved OMB Nos. 2070-0060; 2070-0057; 2070-0107; 2070-0122; 2070-0164

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
1200 Pennsylvania Avenue, N.W.
WASHINGTON, D.C. 20460

Certification with Respect to Citation of Data

Applicant's/Registrant's Name, Address, and Telephone Number	EPA Registration Number/File Symbol
Louisiana-Pacific Corp., 414 Union St., Suite 2000, Nashville, TN 37219; 615-986-5665	89807-R
Active Ingredient(s) and/or representative test compound(s) Zinc borate	Date December 17, 2012
General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158) Manufacturing use; wood preservative	Product Name Zinc Borate Biocide

NOTE: If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data-Call-In Notice, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

SECTION I: METHOD OF DATA SUPPORT (Check one method only)

☐ I **am** using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).	☑ I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).

SECTION II: GENERAL OFFER TO PAY

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application, to the extent required by FIFRA.

SECTION III: CERTIFICATION

I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses .

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (I) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature	Date	Typed or Printed Name and Title
Cynthia Ann Smith	Dec. 17, 2012	Cynthia Ann Smith, Agent

EPA Form 8570-34 (12-2003) Electronic and Paper versions available. Submit only Paper version.

Pages 44-51 * Claimed confidential by submitter*

There is an ELECTRONIC LABEL for this action

You can use Acrobat to compare the e-label to the previous version (and find the changes). You can also use Acrobat to mark-up the e-label with your comments.

If e-label was submitted via

CD-ROM with paper application

then you will find e-label in

Electronic Label Library

If the e-label is not found in the ELL then it was probably not named correctly and could not be entered into the ELL. However, the file can be retrieved from the CD which is retained by the Front End.

or

If e-label was submitted via

XML E-Submission (no paper)

then you will find e-label in

Documentum

See overview of processing e-labels on other side of this sheet.
If you have any questions on e-labels, please contact one of your division e-label experts:

AD	Willie Abney	308-1689
	Renae Whitaker	308-7003
	Tracy Lantz	308-6415
BPPD		
RD	Tom Harris	308-9423

PROCESSING ELECTRONIC LABELS

(rev. 1/5/09, tch)

If e-label submitted via XML e-submission (not on CD-ROM), you may wish to find e-label in Documentum, save e-label to "My Documents", add e-label to ELL, start below at step 5.

Initial E-Label per application (on CD-ROM with paper via ITRMD)

[1] ITRMD receives paper submission w/ e-label on CD

[2] Tracking record added to OPPIN

[3] ITRMD adds e-label to ELL

[4] ITRMD sends paper submission to AD/BPPD/RD

[5] Connect ELL record with OPPIN S#

in-process

[6] Save copy of e-label from ELL to My Documents

[7] Review label
(if acceptable, skip to step 20)

[8] Add comments to e-label
(save; add "with comments" to filename

[9] Print annotated e-label
(use "Print with Filename")

review

[10] Send annotated e-label to registrant via email
(also send "How To Print")

[11] File print of annotated e-label and email in jacket

[12] Add annotated e-label to ELL

[13] Close submission in OPPIN

out-process

Resubmission (via email to staffer or PM)

[14] Receive email submission w/ e-label attached

[15] Add tracking record to OPPIN

[16] Add e-label to ELL

[17] Connect ELL record with OPPIN S#

in-process

[18] Save copy of e-labels (old & new) from ELL to My Documents

[19] Compare old and new labels with Acrobat

(if revisions needed repeat steps 8-19)

review

[20] Print e-label, stamp, write cover letter
(use "Print with Filename")

[21] Mail stamped label & cover letter to registrant

[22] File stamped label & cover letter in jacket

[23] Add cover letter to ELL
(mandatory if accepted with comments)

[24] Close submission in OPPIN

out-process

process - big picture
1- create OPPIN tracking
2- put label in ELL; link to S#
3- save ELL label to MyDocuments
4- compare / comment
5- outprocess

techniques to know
- filename for e-labels
- "print with filename"
- compare / comment
- printing with comments

Certification with Respect to Label Integrity

version: 9/11/02

I certify that the information (including, but not limited to, text, tables, and graphics) contained in the electronic file identified below by file name and submitted with this certification is the same information as that on the paper copies of these documents included with this submission.

PROPOSED LABEL		
EPA Reg. No.	Date Submitted to EPA	Electronic File Name
89807-R	12/17/2012	089807-0000R.20121217.pdf

I certify that the statements that I have made on this form are true, accurate, and complete. I acknowledge that any knowingly false or misleading statements may be punishable by fine or imprisonment or both under applicable law.

Cynthia Ann Smith

December 17, 2012

Cynthia Ann Smith
Agent for Louisiana-Pacific Corporation

[Front panel]

Zinc Borate

Biocide

For Manufacturing Use Only

INGREDIENTS	
ACTIVE INGREDIENT:	
Zinc Borate ($2ZnO \cdot 3B_2O_3 \cdot 3.5H_2O$)*	99.8%
OTHER INGREDIENTS	0.2%
TOTAL	100.0%

* CAS Number 138265-88-0. Concentration is reported on a dry weight basis.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements.

[Alternate statements: *See below for additional precautionary statements.*
See booklet for additional precautionary statements.
See shipping documents for a complete label.]

Louisiana-Pacific Corporation
EPA Reg. No. 89807-__
EPA Est. No. _____

Net Weight:
2250 Pounds

Batch No.:

Batch Date:

[*Back panel*]

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

FIRST AID	
If in Eyes:	Hold the eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
If Swallowed:	Call a Poison Control Center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.
If on Skin or Clothing:	Take off contaminated clothing. Rinse the skin immediately with plenty of water for 15 minutes.
If Inhaled:	Remove person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
In Case of Emergency: Contact a Poison Control Center (**1-800-222-1222**) or a doctor. Have product label with you when calling or going for treatment.	

ENVIRONMENTAL HAZARDS

Do not discharge effluent containing this product to lakes, streams, ponds, estuaries, oceans, of other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

GENERAL INFORMATION

Zinc Borate Biocide can be used as an additive in the manufacturing of wood-based composites to control the growth of white rot (*e.g., Trametes versicolor*) and brown rot (*e.g., Gloeophyllum trabeum*) decay fungi. Zinc Borate Biocide also helps protect composite materials from damage caused by wood destroying insects. Optimum performance is obtained when Zinc Borate Biocide is uniformly dispersed in wood-based composites. By adding Zinc Borate Biocide prior to or during the blending process, it is possible to achieve a thorough and uniform distribution of the chemical throughout the composite material.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Zinc Borate Biocide provides protection of wood-based composites from wood destroying bacteria, fungi, and insects. Zinc Borate Biocide may be used in the production of wood-based composites used in the production of:

- Exterior panel siding;
- Exterior lap siding;
- Exterior architectural trim;
- Fascia; and
- Soffits

that have been pre-primed with an exterior acrylic base primer and that are for above ground applications only. Do not use Zinc Borate Biocide for exterior applications other than the listed applications. Do not use Zinc Borate Biocide for below ground applications, or aquatic environment applications. Do not use Zinc Borate Biocide for the production of permitted applications unless the treated product, when released for shipment, has been pre-primed with an acrylic base primer.

The ability of a wood-based composite to resist wood destroying bacteria, fungi, and insects is dependent on the wood species, resin type, resin and wax content, method of production, exposure hazard and the presence of wood preservatives. This product does not provide protection against wood destroying bees.

In independent tests performed in Hawaii on aspen flake wood-composites, Zinc Borate Biocide at a loading of 0.99% (w/w), provided protection against wood destroying bacteria, fungi, and insects. This loading is intended to serve only as a guideline, and the wood-based composite manufacturer must determine the Zinc Borate Biocide loadings for their treated product, end-use application, and claims. Zinc Borate Biocide loadings must not exceed 8% (w/w). For wood-based composite loadings in excess of 1.5% (w/w), it may be necessary to use additional adhesive binder to compensate for possible effects on strength.

Manufacturers that use this product are responsible for supporting all claims for their products. This product may be used to produce products that are exempt from EPA registration under the treated article exemption. Manufacturers that use this product to make products marketed with pesticidal claims are responsible for fulfilling all EPA regulatory requirements for their products.

This product may NOT be repackaged without the written authorization of the manufacturer.

STORAGE AND DISPOSAL Do not contaminate water, food or feed by storage or disposal.	
Pesticide Storage:	Store in a dry place. Do not store where children or animals may gain access.
Pesticide Disposal:	Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
Container Handling:	Refillable container. Completely empty bag into manufacturing equipment. Then return to manufacturer for refilling or disposal.

WARRANTY

Neither manufacturer or seller shall be liable for injuries or damages resulting from use and handling of this product contrary to the label. Buyer accepts this material subject to these term and assumes full risk of use and handling except when used or handled in accordance with the label.

Label Version No. _____

[*Front panel*]

Zinc Borate

Biocide

For Manufacturing Use Only

INGREDIENTS	
ACTIVE INGREDIENT:	
Zinc Borate ($2ZnO \cdot 3B_2O_3 \cdot 3.5H_2O$)*	99.8%
OTHER INGREDIENTS	0.2%
TOTAL	100.0%

* CAS Number 138265-88-0. Concentration is reported on a dry weight basis.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements.

[Alternate statements: See below for additional precautionary statements.
See booklet for additional precautionary statements.
See shipping documents for a complete label.]

Louisiana-Pacific Corporation
EPA Reg. No. 89807-__
EPA Est. No. _____

Net Weight:
2250 Pounds

Batch No.:

Batch Date:

[Back panel]

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

FIRST AID	
If in Eyes:	Hold the eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
If Swallowed:	Call a Poison Control Center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.
If on Skin or Clothing:	Take off contaminated clothing. Rinse the skin immediately with plenty of water for 15 minutes.
If Inhaled:	Remove person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
In Case of Emergency: Contact a Poison Control Center (**1-800-222-1222**) or a doctor. Have product label with you when calling or going for treatment.	

ENVIRONMENTAL HAZARDS

Do not discharge effluent containing this product to lakes, streams, ponds, estuaries, oceans, of other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

GENERAL INFORMATION

Zinc Borate Biocide can be used as an additive in the manufacturing of wood-based composites to control the growth of white rot (*e.g., Trametes versicolor*) and brown rot (*e.g., Gloeophyllum trabeum*) decay fungi. Zinc Borate Biocide also helps protect composite materials from damage caused by wood destroying insects. Optimum performance is obtained when Zinc Borate Biocide is uniformly dispersed in wood-based composites. By adding Zinc Borate Biocide prior to or during the blending process, it is possible to achieve a thorough and uniform distribution of the chemical throughout the composite material.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Zinc Borate Biocide provides protection of wood-based composites from wood destroying bacteria, fungi, and insects. Zinc Borate Biocide may be used in the production of wood-based composites used in the production of:

- Exterior panel siding;
- Exterior lap siding;
- Exterior architectural trim;
- Fascia; and
- Soffits

that have been pre-primed with an exterior acrylic base primer and that are for above ground applications only. Do not use Zinc Borate Biocide for exterior applications other than the listed applications. Do not use Zinc Borate Biocide for below ground applications, or aquatic environment applications. Do not use Zinc Borate Biocide for the production of permitted applications unless the treated product, when released for shipment, has been pre-primed with an acrylic base primer.

The ability of a wood-based composite to resist wood destroying bacteria, fungi, and insects is dependent on the wood species, resin type, resin and wax content, method of production, exposure hazard and the presence of wood preservatives. This product does not provide protection against wood destroying bees.

In independent tests performed in Hawaii on aspen flake wood-composites, Zinc Borate Biocide at a loading of 0.99% (w/w), provided protection against wood destroying bacteria, fungi, and insects. This loading is intended to serve only as a guideline, and the wood-based composite manufacturer must determine the Zinc Borate Biocide loadings for their treated product, end-use application, and claims. Zinc Borate Biocide loadings must not exceed 8% (w/w). For wood-based composite loadings in excess of 1.5% (w/w), it may be necessary to use additional adhesive binder to compensate for possible effects on strength.

Manufacturers that use this product are responsible for supporting all claims for their products. This product may be used to produce products that are exempt from EPA registration under the treated article exemption. Manufacturers that use this product to make products marketed with pesticidal claims are responsible for fulfilling all EPA regulatory requirements for their products.

This product may NOT be repackaged without the written authorization of the manufacturer.

STORAGE AND DISPOSAL Do not contaminate water, food or feed by storage or disposal.	
Pesticide Storage:	Store in a dry place. Do not store where children or animals may gain access.
Pesticide Disposal:	Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
Container Handling:	Refillable container. Completely empty bag into manufacturing equipment. Then return to manufacturer for refilling or disposal.

WARRANTY

Neither manufacturer or seller shall be liable for **injuries or damages resulting from use and handling of this product contrary to the label. Buyer accepts this material subject to these term and assumes full risk** of **use and handling except when used or handled in accordance with the label.**

Label Version No. _____

[*Front panel*]

Zinc Borate

Biocide

For Manufacturing Use Only

INGREDIENTS	
ACTIVE INGREDIENT:	
Zinc Borate ($2ZnO \cdot 3B_2O_3 \cdot 3.5H_2O$)*	99.8%
OTHER INGREDIENTS	0.2%
TOTAL	100.0%

* CAS Number 138265-88-0. Concentration is reported on a dry weight basis.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements.

[Alternate statements: See below for additional precautionary statements.
See booklet for additional precautionary statements.
See shipping documents for a complete label.]

Louisiana-Pacific Corporation
EPA Reg. No. 89807-__
EPA Est. No. _____

Net Weight:
2250 Pounds

Batch No.:

Batch Date:

[*Back panel*]

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

FIRST AID	
If in Eyes:	Hold the eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
If Swallowed:	Call a Poison Control Center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.
If on Skin or Clothing:	Take off contaminated clothing. Rinse the skin immediately with plenty of water for 15 minutes.
If Inhaled:	Remove person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
In Case of Emergency: Contact a Poison Control Center (**1-800-222-1222**) or a doctor. Have product label with you when calling or going for treatment.	

ENVIRONMENTAL HAZARDS

Do not discharge effluent containing this product to lakes, streams, ponds, estuaries, oceans, of other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

GENERAL INFORMATION

Zinc Borate Biocide can be used as an additive in the manufacturing of wood-based composites to control the growth of white rot (*e.g., Trametes versicolor*) and brown rot (*e.g., Gloeophyllum trabeum*) decay fungi. Zinc Borate Biocide also helps protect composite materials from damage caused by wood destroying insects. Optimum performance is obtained when Zinc Borate Biocide is uniformly dispersed in wood-based composites. By adding Zinc Borate Biocide prior to or during the blending process, it is possible to achieve a thorough and uniform distribution of the chemical throughout the composite material.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Zinc Borate Biocide provides protection of wood-based composites from wood destroying bacteria, fungi, and insects. Zinc Borate Biocide may be used in the production of wood-based composites used in the production of:

- Exterior panel siding;
- Exterior lap siding;
- Exterior architectural trim;
- Fascia; and
- Soffits

that have been pre-primed with an exterior acrylic base primer and that are for above ground applications only. Do not use Zinc Borate Biocide for exterior applications other than the listed applications. Do not use Zinc Borate Biocide for below ground applications, or aquatic environment applications. Do not use Zinc Borate Biocide for the production of permitted applications unless the treated product, when released for shipment, has been pre-primed with an acrylic base primer.

The ability of a wood-based composite to resist wood destroying bacteria, fungi, and insects is dependent on the wood species, resin type, resin and wax content, method of production, exposure hazard and the presence of wood preservatives. This product does not provide protection against wood destroying bees.

In independent tests performed in Hawaii on aspen flake wood-composites, Zinc Borate Biocide at a loading of 0.99% (w/w), provided protection against wood destroying bacteria, fungi, and insects. This loading is intended to serve only as a guideline, and the wood-based composite manufacturer must determine the Zinc Borate Biocide loadings for their treated product, end-use application, and claims. Zinc Borate Biocide loadings must not exceed 8% (w/w). For wood-based composite loadings in excess of 1.5% (w/w), it may be necessary to use additional adhesive binder to compensate for possible effects on strength.

Manufacturers that use this product are responsible for supporting all claims for their products. This product may be used to produce products that are exempt from EPA registration under the treated article exemption. Manufacturers that use this product to make products marketed with pesticidal claims are responsible for fulfilling all EPA regulatory requirements for their products.

This product may NOT be repackaged without the written authorization of the manufacturer.

STORAGE AND DISPOSAL Do not contaminate water, food or feed by storage or disposal.	
Pesticide Storage:	Store in a dry place. Do not store where children or animals may gain access.
Pesticide Disposal:	Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
Container Handling:	Refillable container. Completely empty bag into manufacturing equipment. Then return to manufacturer for refilling or disposal.

WARRANTY

Neither manufacturer or seller shall be liable for injuries or damages resulting from use and handling of this product contrary to the label. Buyer accepts this material subject to these term and assumes full risk of use and handling except when used or handled in accordance with the label.

Label Version No. _____

FOR OFFICIAL USE ONLY

FILE SYMBOL	
REGISTRATION NO.	89807-E

CONFIDENTIAL STATEMENT OF FORMULA ENCLOSED

DATE SUBMITTED	SUBMITTED BY (✓)	
	APPLICANT	BASIC SUPPLIER
12/17/12		

Do Not Write Comments, Formula, or Parts of Formula on This Envelope

NOTE

It shall be unlawful—for any person to use for his own advantage or to reveal, other than to the Secretary, or officials or employees of the United States Department of Agriculture or other Federal agencies, or to the courts in response to a subpoena, or to physicians, and in emergencies to pharmacists and other qualified persons, for use in the preparation of antidotes, in accordance with such directions as the Secretary may prescribe, any information relative to formulas of products acquired by authority of Section 4 of the "Federal Insecticide, Fungicide, and Rodenticide Act."

Pages 68-69 - *Confidential Statements of Formula may be entitled to confidential treatment*